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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/790,693 | 03/03/2004 | Arthur L. Rowe | 118923 | 2285 |
| 25944 | 7590 | 02/22/2006 | EXAMINER | |
| OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320 | | | CASAREGOLA, LOUIS J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3746 | |

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/790,693 | Applicant(s) ROWE, ARTHUR L. | |
| | Examiner Louis J. Casaregola | Art Unit 3746 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
 4a) Of the above claim(s) 22-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,17-21,26 is/are rejected.
- 7) ☒ Claim(s) 3-16,27 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Restriction Requirement

Restriction to one of the following inventions is required under 35 USC 121:

- I. Claims 1-21 and 26-27 drawn to gas turbine control apparatus classified in Class 60, subclass 39.281, and
- II. Claims 22-25 drawn to a gas turbine control method classified in Class 60, subclass 773.

The inventions of Groups I and II above are distinct because the method of Group II could be practiced with apparatus materially different than that of Group I. The controller required by the claimed apparatus corresponds to an automated control system as shown, for example, in the illustrated embodiment of the invention. The corresponding control steps in the claimed method however could be performed manually using simplified apparatus without an automated control system.

Because these inventions are distinct for the reasons given above and require separate classification and/or divergent fields of search, restriction for examination purposes as indicated is proper.

On 2/15/06, applicants representative, Mr. Phillip Wrist, made a telephone election of the invention of Group I, claims 1-21 and 26-27. An action on the merits of the elected claims is set forth below, and non-elected claims 22-25 are withdrawn from further consideration.

Objections To Claims

Claims 4 and 5 are objected to under 37 CFR 1.75(a) for the following reason:

In line 1 of both claims 4 and 5, reference to "the proportions" lacks proper antecedent basis. Claims 4 and 5 depend from claim 2, but the antecedent for the term "proportions" is introduced in claim 3. Claims 4 and 5 should therefore depend from claim 3 rather than claim 2.

Claim Rejections - 35 USC 102

Claims 1, 21, and 26 are rejected under 35 USC 102(b) as being anticipated by either Tsuzuki et al or Hawes.

All limitations of the claimed gas turbine engine and control system are met by conventional two-spool engines which, like those in the cited references, use the speeds of both spools as inputs for a fuel control. Attention is called for example to Tsuzuki's Figures 1 and 2. Note that engine 10 has a first spool including compressor 24 and a second spool including compressor 16 (Fig. 1), and note also that the respective speeds of the two spools, N2 and N1, are input to control unit 80 which operates a fuel metering valve.

Attention is further called to Hawes' Figure 3 which shows a similar system. Note that first and second spool speeds, N_h and N_l , serve as inputs for fuel control unit 11.

Claim 2 is rejected under 35 USC 102(b) as being anticipated by Hawes.

The claimed "composite parameter" is sufficiently broad to read on any parameter that is a function of both spool speeds such as, for example, the output of block 54 in Hawes' Figure 3 or the output of block 60 in Hawes' Figure 4.

Claims 17-20 are rejected under 35 USC 102(b) as being anticipated by Tsuzuki et al.

Note that Tsuzuki's control system receives engine inlet temperature and pressure as further inputs; see Figure 2, elements 68 and 70.

Allowable Subject Matter

Claims 3-16 and 27 contain allowable subject matter but are objected to as depending from rejected parent claims. If these claims are written in independent form, they will be allowed. (Note that allowance of claims 4 and 5 is further contingent upon overcoming the § 1.75(a) objection above.)

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Additional References

McLaughlin et al and Larkin are cited as disclosing further examples of two-spool turbine engines that use the speeds of both spools as fuel control inputs.



L. J. Casaregola
571-272-4826 (M-F; 7:30-4:00)
571-273-8300 FAX
February 21, 2006

If repeated attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Information regarding the status of this application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR, and status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).